where N is the total number of entries in the table. From the above definition of the correlation ratio of y on x we have

$$\eta^2_{yx} = \frac{\Sigma f_x \left(\frac{S_s}{f_x} - \overline{Y}\right)^2}{N\sigma_y^2}.$$

This form can be reduced as follows:

$$\frac{\Sigma f_x \left(\frac{S_s}{f_x} - \overline{Y}\right)^2}{N\sigma_y^2} = \frac{\Sigma \frac{S_s^2}{f_x}}{N\sigma_y^2} - \frac{2\overline{Y}\Sigma S_s}{N\sigma_y^2} + \frac{\overline{Y}^2 \Sigma f_x}{N\sigma_y^2} = \frac{\Sigma \frac{S_s^2}{f_x}}{N\sigma_y^2} - \frac{\overline{Y}^2}{\sigma_y^2}$$

remembering that $\frac{\Sigma S_s}{N} = \overline{Y}$ and $\Sigma f_x = N$.

We may then write

$$\eta^2_{yx} = \frac{1}{\sigma_y^2}\left\{\Sigma \frac{\frac{S_s^2}{f_x}}{N} - \overline{Y}^2\right\}$$

and a similar transformation gives

$$\eta^2_{xy} = \frac{1}{\sigma_x^2}\left\{\Sigma \frac{\frac{S_{s'}^2}{f_y}}{N} - \overline{X}^2\right\},$$

both of which are easily obtained from the last columns in the form for computation.

A. R. Crathorne

University of Illinois

NEW SWEDISH PRICE INDEX NUMBERS

The Kommerskollegium of Sweden (Bureau of Commerce) has recently completed an official price investigation undertaken at the close of the war, and the results in the form of a new series of index numbers of Swedish wholesale prices appeared in the official publication of the Kommersiella Meddelanden for May 26, 1922.

The index numbers are built on 160 series of market quotations. Approximately 105 distinct commodities are included, representing raw products and manufactured goods in various stages of elaboration both for producers' and consumers' use. The classification comprises 13 main categories; vegetable food stuffs; animal food stuffs; feed and forage; fertilizers; raw and manufactured products of the iron and metal industries; mortar, brick, cement and glass; lumber; paper and pulp; textile fibres and fabrics; hides, leather, and shoes; rubber; chemical technical products. These main classes are again divided into subordinate commodity groups. Monthly indexes are computed for each series of quotations as well as for each subdivision and general group by taking a

weighted average of a percentage variation in prices. The weight used is the turnover value of the quantity marketed in 1913. The aggregate turnover value of all articles entering into the index amounts to two thirds of the total inland trade of Sweden that year. The indexes constructed for the commodity groups measure the fluctuation in monthly prices since January, 1920, in terms of the prices for the corresponding months of 1913; that is to say, January, 1921, prices are compared with the prices of January, 1913, and so on for each respective month. The field of this official inquiry is limited to wholesale prices from the beginning of 1920, and no effort has been made to cover the abnormal war period. Certain differences distinguish this index series from that of the *Svensk Handelstidning*, which reflects price movements by quarters from the beginning of the war to the end of 1917 and shows monthly fluctuations from 1918 to date. For the latter index the twelve months from July, 1913, to June, 1914, constitute the base period. The *Svensk Handelstidning* index, furthermore, is constructed from scantier material and is limited to only 47 market quotations of raw materials and slightly manufactured goods. It also weights the commodity according to value of consumption during the pre-war year instead of the value of trade turnover. In spite of these differences the degree of divergence between the two indexes is not particularly striking. The trend of movement is practically the same although the index of the Kommerskollegium is maintained consistently at a higher level.

The new price study of the Kommerskollegium is an interesting contribution to the literature of Swedish wholesale prices, especially since the compilers have published the original price material upon which the index is constructed, and have presented in detail precise market specifications of the commodities and the respective weights of all the articles included.

Another index number of current interest because of its usefulness in making international price comparisons has been compiled by the *Svensk Handelstidning* for the single month of February, 1922. The object of this publication in computing a new index was to analyze the value of the Swedish krona in relationship to other exchanges. Index numbers for the United States and England were compiled on the same basis as its own index for Sweden, using the same number and kind of commodities where possible. According to this computation the all-commodities indexes for Sweden and England are in very close agreement with each other, which points to the conclusion that, compared with 1913–14, the English pound sterling has lost approximately the same purchasing power as the Swedish krona. The index number of 132 obtained for the United States, on the other hand, gives a result widely divergent from the corresponding index of 166 for Sweden, indicating that the level of American prices in February was 34 points lower than the level of Swedish prices. As the margin is too wide to be accounted for by the slight differences in the comparability of the data, the conclusion drawn by the *Svensk Handelstidning* is that either Swedish price quotations must decline or the exchange value of the dollar rise.

RUTH E. K. PETERSON

Washington, D. C.